The Office Action rejects claims 1-7, 11-16, 20-25, 42-78, and 52-57, and objects to claims 8-10, 17-19, 26-41, 49-51, and 58-60 as depending on rejected base claims. The specific rejections and the Applicant's responses follow.

Anticipation Rejection of Claims 11-15, 20-24, and 52-56 by U.S. Pat. No. 5,832,035 to Fullerton ("Fullerton")

The Office Action rejects claims 11-15, 20-24, and 52-56 as anticipated by Fullerton. The Applicant respectfully submits that the Office Action fails to properly set forth a *prima facie* anticipation rejection.

At the outset, the Applicant notes that the Office Action states: "Furthermore, it is inherent to have circuits for transmitting, receiving, and detecting." Office Action at 2. The Applicant respectfully disagrees. Without a context, such as the context of a specific reference, circuits for "transmitting, receiving, and detecting" are not inherent in a general sense.

Rejected independent claim 11, and by implication dependent claims 12-19, include the limitation "a detector circuitry configured to discriminate from a noise floor a first-arriving pulse in the plurality of pulses." Rejected independent claim 20, and by implication dependent claims 21-41, include the limitation "a detector circuitry configured to discriminate from a noise floor a first-arriving pulse of the plurality of pulses." Rejected independent claim 52, and by implication dependent claims 53-60, include the limitation "discriminating from a noise floor a first-arriving pulse in the plurality of pulses by using a detector circuitry."

The Applicant respectfully submits that Fullerton fails to teach at least one claimed limitation and, therefore, fails to anticipate claims 11-15, 20-24, and 52-56. More specifically, Fullerton relates to, and teaches, detecting channel coincidence. *See, e.g.*, Fullerton at Abstract; col. 2, lines 29-40; col. 2, lines 56-58. According to the

Applicant's understanding, Fullerton does not relate to, and fails to teach, the claimed limitations "a detector circuitry configured to discriminate from a noise floor a first-arriving pulse of the plurality of pulses" and "discriminating from a noise floor a first-arriving pulse in the plurality of pulses by using a detector circuitry." Furthermore, the Applicant notes that the passages of Fullerton referenced in the Office Action (for example, col. 12, lines 1-7; col. 2, lines 36-40; Abstract) discuss detecting channel coincidence, not first-arriving pulses. Thus, Fullerton fails to anticipate claims 11-15, 20-24, and 52-56.

Obviousness Rejection of Claims 1-7, 16, 25, 42-48, and 57 Over Fullerton in View of U.S. Pat. No. 5,445,029 to Falsetti ("Falsetti")

The Office Action rejects claims 1-7, 16, 25, 42-48, and 57 as unpatentable pursuant to 35 U.S.C. § 103(a) over Fullerton in view of Falsetti. The Applicant respectfully submits that the Office Action fails to properly set forth a *prima facie* obviousness rejection.

Rejected independent claim 1, and by implication dependent claims 2-10, include the limitation "a threshold circuitry configured to provide a first-arriving-pulse signal depending on the relative values of the output signal of the correlator circuitry and a threshold signal derived from a noise floor." Independent claim 11, and by implication rejected dependent claim 16, include the limitation "a detector circuitry configured to discriminate from a noise floor a first-arriving pulse in the plurality of pulses." Independent claim 20, and by implication rejected dependent claim 25, include the limitation "a detector circuitry configured to discriminate from a noise floor a first-arriving pulse of the plurality of pulses." Rejected independent claim 42, and by implication dependent claims 43-51, include the limitation "comparing the correlation output signal and a threshold signal to provide a first-arriving-pulse signal, wherein the threshold signal is derived from a noise floor." Independent claim 52, and by implication rejected dependent claim 57, include the limitation "discriminating from a noise floor a first-arriving pulse in the plurality of pulses by using a detector circuitry."

As noted above, Fullerton relates to, and teaches, detecting channel coincidence. *See, e.g.*, Fullerton at Abstract; col. 2, lines 29-40; col. 2, lines 56-58. According to the Applicant's understanding, Fullerton does not relate to detecting first-arriving pulses, and fails to teach the claimed limitations quoted above. Furthermore, the Applicant notes that the passages of Fullerton referenced in the Office Action (for example, col. 12, lines 1-7; col. 2, lines 36-40; Abstract) discuss detecting channel coincidence, not first-arriving pulses. Thus, Fullerton fails to teach the claimed limitations quoted above. The Applicant further notes that the Office Action does not allege that Falsetti provides the missing claimed limitations relating to detecting, discriminating, and/or providing first-arriving pulses, quoted above. Accordingly, the Applicant respectfully submits that the combination of Fullerton and Falsetti, even if proper, fails to teach the claimed subject-matter.

Moreover, as the Office Action concedes, Fullerton does not describe or teach the claimed limitation "a threshold signal derived from a noise floor." The Office Action, however, asserts that "Falsetti teaches calculating the noise threshold (see col. 10 lines 31-34), which reads on the claimed threshold signal derived from a noise floor." Office Action at 3.

According to its own teaching, Falsetti "generally relates to ultrasonic inspection techniques for materials having an intrinsically coarse grain structure which results in anisotropic and nonuniform acoustic properties," Falsetti at col. 1, lines 7-10. Falsetti does not relate to, and fails to teach, communication, ranging, and positioning systems and, more particularly, detecting first-arriving pulses in ultra-wideband communication, ranging, and positioning systems, to which the Applicant's invention relates. The Office Action merely asserts that "[i]t would have been obvious to modify Fullerton's system to include [a] threshold signal derived from a noise floor to be able to detect and discriminate the signal from the noise more accurately." Office Action at 3. The Office Action, however, fails to provide objective evidence of a motivation or suggestion that a

person of ordinary skill in the art to which the Applicant's invention relates would have combined Falsetti with Fullerton.

A motivation or suggestion to combine references is an "essential requirement" of a *prima facie* obviousness case. *C.R. Bard, Inc. v. M3 Sys., Inc.*, 48 U.S.P.Q.2d (BNA) 1225, 1232 (Fed. Cir. 1998). The PTO can satisfy its burden of showing obviousness "only by showing some objective teaching" leading to combination of references. *In re Fritch*, 23 U.S.P.Q.2d (BNA) 1780, 1783 (Fed. Cir. 1992). Furthermore, the showing of a motivation or suggestion to combine references "must be clear and particular." *In re Dembiczak*, 50 U.S.P.Q.2d (BNA) 1614, 1617 (Fed. Cir. 1999).

Here, the Office Action fails to provide any objective "evidence of . . . a suggestion, teaching, or motivation" and, hence, does not meet those requirements. *Dembiczak*, 50 U.S.P.Q.2d (BNA) at 1617. Accordingly, the Applicant respectfully submits that the Office Action does not set forth a *prima facie* obviousness case under 35 U.S.C. § 103.

Provisional Obviousness-Type Double-Patenting Rejection of Claim 20

The Office Action provisionally rejects claim 20 under the obviousness-type double-patenting doctrine as unpatentable over claim 17 of co-pending Patent Application Serial No. 09/915,620. In response, the Applicant files concurrently with this Response to Office Action a terminal disclaimer according to 37 C.F.R. § 1.321(c). The Applicant respectfully submits that the terminal disclaimer overcomes the provisional rejection of claim 20.

CONCLUSION

In view of the foregoing, the Applicant respectfully submits that the pending claims are in condition for allowance. Accordingly, the Applicant respectfully requests favorable reconsideration and Notice of Allowance of the claims.

The Applicant invites the Examiner to contact the undersigned at the phone number indicated below with any questions or comments, or to otherwise facilitate expeditious issuance.

Respectfully submitted,

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